

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 9, SAN DIEGO REGION**

**NPDES NO. CA0108181
ORDER NO. R9-2005-0006**

**SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 3**

**TABLE OF CONTENTS
ATTACHMENT D – MONITORING AND REPORTING PROGRAM**

I.	MONITORING PROVISIONS	D-1
II.	MONITORING LOCATIONS	D-4
III.	COOLING WATER INTAKE MONITORING	D-5
IV.	COMBINED DISCHARGE MONITORING	D-6
V.	COMBINED LOW VOLUME WASTEWATER MONITORING	D-7
VI.	INDIVIDUAL LOW VOLUME WASTEWATERS MONITORING	D-9
VII.	CHEMICAL AND NON-CHEMICAL METAL CLEANING WASTES	D-10
VIII.	UNIT 1 AND MESA COMPLEX SEWAGE TREATMENT PLANTS	D-10
IX.	ACROSS-THE-BEACH DISCHARGE MONITORING	D-11
X.	RECEIVING WATER MONITORING	D-11
XI.	ANNUAL SUMMARY OF MONITORING DATA	D-14
XII.	OTHER MONITORING REQUIREMENTS	D-14
XIII.	REPORTING REQUIREMENTS	D-14
XIV.	ENDNOTE REFERENCES	D-16

Table of Contents (Cont.)
Monitoring and Reporting Program
Order No. R9-2005-0006

Attachment 1 – SONGS Unit 3 Receiving Water Monitoring Stations:

Figure 1: Continuous Temperature Monitoring Stations

Figure 2: Fish Trawling Survey Stations

Figure 3: San Onofre Kelp Site

Figure 4: Temperature Profile and Water Quality Measurement Stations

Attachment 2 – Analysis of Pollutants (Table B, Ocean Plan) – Minimum Levels

Attachment 3 – Monitoring of Chronic Toxicity and Implementation of Limitations

Attachment 4 – SONGS Facility Gridmap

ATTACHMENT D – MONITORING AND REPORTING PROGRAM

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD REGION 9, SAN DIEGO REGION

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40 CFR 122.48 requires all NPDES permits to specify requirements for recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code require technical and monitoring reports. This Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement the CFR and CWC.

I. MONITORING PROVISIONS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Regional Board.
2. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:
 - a. *A Guide to Methods and Standards for the Measurement of Water Flow*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)
 - b. *Water Measurement Manual*, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027.)
 - c. *Flow Measurement in Open Channels and Closed Conduits*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. [Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.]
 - d. *NPDES Compliance Sampling Manual*, U.S. Environmental Protection Agency,

Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. [Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.]

3. Monitoring must be conducted according to United States Environmental Protection Agency (U.S. EPA) test procedures approved at 40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act as amended, unless other test procedures are specified in Order No. R9-2005-0006 and/or in this MRP and/or by the Regional Board.
4. Duplicate copies of the monitoring reports, signed and certified as required by *Federal Standard Provisions - Reporting*, E.2 (see Attachment C of Order No. R9-2005-0006) must be submitted to the SWRCB and Regional Board at the addresses listed in *Reporting Requirement*, XIII.8, below, of this MRP.
5. If the discharger monitors any pollutant more frequently than required by Order No. R9-2005-0006 or by this MRP, using test procedures approved under 40 CFR Part 136, or as specified in Order No. R9-2005-0006 or this MRP or by the Regional Board, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
6. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by Order No. R9-2005-0006 and this MRP, for a period of at least five years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board at any time.
7. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in Order No. R9-2005-0006 or this MRP.
8. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Regional Board.
9. The Discharger shall report all instances of noncompliance not reported under *Federal Standard Provisions - Reporting*, E.3, E.4, and E.5 (see Attachment C of Order No. R9-2005-0006) at the time monitoring reports are submitted. The reports shall contain the information listed in *Federal Standard Provisions - Reporting*, E.5. [40 CFR 122.41(l)(7)]
10. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;

- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

In addition, records of all cooling water intake monitoring, effluent monitoring, and receiving water monitoring shall include:

- a. The applicable tide table for the days on which sampling/monitoring was conducted; and
 - b. The moon phase (in days after the new moon) for the days on which sampling/monitoring was conducted.
11. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices.
12. The discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by U.S. EPA or the Regional Board, the discharger will participate in the NPDES discharge monitoring report QA performance study. The discharger should have a success rate equal or greater than 80 percent.
13. Analysis for pollutants with effluent limitations based on water quality objectives of the California Ocean Plan (2001) shall be conducted in accordance with procedures described in Attachment 2 of this MRP.
14. Toxicity Provisions
- a. Chronic toxicity monitoring shall be conducted in accordance with procedures described in Attachment 3 of this MRP.
 - b. Toxicity Reopener

This permit may be modified in accordance with the requirements set forth at 40 CFR Parts 122 and 124, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any U.S. EPA

- approved, new, state water quality standards applicable to effluent toxicity.
15. Monitoring results shall be reported at intervals and in a manner specified in Order No. R9-2005-0006 or in this MRP.
 16. Revisions of the monitoring program by the Regional Board are appropriate to ensure that the discharger is in compliance with requirements and provisions contained in this Order. Revisions may be made by the Regional Board at any time during the term of this Order, and may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples collected.

II. MONITORING LOCATIONS

Samples from SONGS Unit 3 shall be collected at the facility locations specified in the table below (see Attachment 4, for sampling point locations on the SONGS Facility Gridmap). The monitoring locations of wastestreams from Unit 1 (applicable only when the discharger routes Unit 1 wastewaters to Outfall 003) are also specified below. If no location is specified, sampling shall be conducted at the most representative sampling location available:

<i>Water/Wastewater to be Monitored from SONGS Unit 3</i>	<i>Outfalls</i>	<i>Monitoring Location on SONGS Facility Gridmap</i>
Receiving Water	-	All receiving water samples shall be collected at monitoring stations as described by Attachment 1 of this MRP.
Cooling Water Intake	-	K-70
Combined Discharge	003	K-70
Chemical and Non-Chemical Metal Cleaning Wastes	003-A and 003-B	I-74
Blowdown Processing	003-C	I-71
Makeup Demineralizer	003-D	D-81
Radwaste System	003-E	F-69, 70
Polishing Demineralizer System	003-F	I-74
Steam Generator Blowdown	003-G	G-69
Hotwell Overboard	003-H	I-72
Plant Drains (Building Sump)	003-I	J-70
Intake Structure Sump	003-J	I-71
Concrete Cutting Water	003-K	N/A
Across-the-Beach Discharges	005	N/A

<i>Water/Wastewater to be Monitored from SONGS Unit 1</i>	<i>Outfalls</i>	<i>Monitoring Location on SONGS Facility Gridmap</i>
Unit 1 Sewage Effluent	001-A	I-62
Mesa Complex Sewage Effluent	001-B	Q-19
Metal Cleaning Waste (Chemical and Non-chemical)	001-C	Q-19
Radwaste System	001-D	N/A
Yard Drains	001-E	N/A
Dewatering	001-F	N/A

III. COOLING WATER INTAKE MONITORING

1. FISH IMPINGEMENT/ENTRAINMENT MONITORING

During heat treatments and for at least one continuous 24-hour period per quarter during normal operation, the following shall be obtained:

- a. Total weight and number of each species of fish removed from the traveling bar racks and screens
- b. Standard length and sex of select species in a representative sample removed from the traveling bar racks and screens.^{1/}

A report containing detailed analysis of the previous year's fish entrainment monitoring data shall be submitted by August 1 of each year. The report shall contain a narrative and graphical summary of all historical data with the goal of displaying long-term trends.

2. Main condenser cooling water inflow shall be monitored and analyzed in accordance with the following schedule:

Constituent	Units	Sample^{2/} Type	Minimum Frequency of Analysis	Reporting Frequency
Flow (Avg. and Max Daily)	mgd	meter or estimate	continuous	monthly
Turbidity	NTU	grab	monthly	monthly
Temperature (Avg. and Max Daily) ^{3/}	° F	-	Once every 2 hrs	monthly
pH	pH units	grab	monthly	monthly

IV. COMBINED DISCHARGE MONITORING (Outfall 003) ^{4/, 5/}

Samples of combined discharge through Outfall 003 shall be collected and analyzed in accordance with the following schedule:

Monitoring Parameters and Reporting Frequency for Combined Discharge

Constituent	Units	Sample Type ^{2/, 8/}	Frequency of Analysis	Reporting Frequency
Flow (Avg. and Max Daily)	mgd	meter or estimate	continuous	monthly
Temperature (Avg. and Max Daily) ^{3/}	° F	measurement	Once every 2 hrs	monthly
Total Residual Chlorine ^{6/}	mg/L	grab	weekly	monthly
Turbidity	NTUs	grab	monthly	monthly
pH	pH units	grab	monthly	monthly
Hydrazine	µg/L	grab	monthly	monthly
Chronic Toxicity*	TUc ^{7/}	composite	quarterly	quarterly
Chronic Toxicity (Metal Cleaning)**	TUc ^{7/}	composite	as needed	quarterly
Arsenic	µg/L	grab	semiannually	semiannually
Cadmium	µg/L	grab	semiannually	semiannually
Chromium (VI)	µg/L	grab	semiannually	semiannually
Copper	µg/L	grab	semiannually	semiannually
Lead	µg/L	grab	semiannually	semiannually
Mercury	µg/L	grab	semiannually	semiannually
Nickel	µg/L	grab	semiannually	semiannually
Selenium	µg/L	grab	semiannually	semiannually
Silver	µg/L	grab	semiannually	semiannually
Zinc	µg/L	grab	semiannually	semiannually
Cyanide	µg/L	grab	semiannually	semiannually
Ammonia	mg/L	grab	semiannually	semiannually
Non-Chlorinated Phenolic Compounds	µg/L	grab	semiannually	semiannually
Chlorinated Phenolics	µg/L	grab	semiannually	semiannually
Endosulfan	µg/L	grab	semiannually	semiannually
Endrin	µg/L	grab	semiannually	semiannually
HCH	µg/L	grab	semiannually	semiannually

* Chronic toxicity monitoring for the combined discharge shall be conducted based on the procedures derived from the California Ocean Plan (2001), as presented in Attachment 3 to this MRP.

**Additional chronic toxicity tests shall be conducted at the combined discharge sampling location whenever metal cleaning wastes (from Internal Outfalls 003-A, 003-B, or 001-C) are routed to Outfall 003.

V. COMBINED LOW VOLUME, IN-PLANT WASTEWATERS FROM UNIT 3^{9/, 10/} (INTERNAL OUTFALLS 003-C THROUGH 003-K) AND UNIT 1^{9/, 10/} (INTERNAL OUTFALLS 001-D THROUGH 001-F)

Low volume, in-plant wastewaters from Unit 3 (Internal Outfalls 003-C through 003-K) shall be monitored in accordance with the schedule below. Reported values shall result from individual grab samples of in-plant waste streams that are collected and composited on a flow-weighted basis. Measurements or estimates of flows of individual in-plant waste streams used as a basis for compositing shall be reported as well as the names of all waste streams sampled. The final sample shall include as many wastewaters as possible. The highest priority waste streams are radwaste, full flow condensate polishing demineralizer regenerants, and makeup demineralizer regenerants. The flow rate used to determine the proportion of each waste stream in the composited sample shall be the actual (preferred) or estimated flow rate for the day on which samples are collected. Low-volume, in-plant wastewaters from Unit 1 (Internal Outfalls 001-D through 001-F) shall be included in the composite sample whenever the discharger routes the Unit 1 flows to Outfall 003.

The composite sample representing combined low volume, in-plant wastewaters from Unit 3 and Unit 1 shall be analyzed for the following constituents and shall comply with the following analysis and reporting frequency:

Monitoring Parameters and Reporting Frequency for *Combined Low-Volume, In-Plant Wastewaters from Units 3 and 1*

Constituent	Units ^{11/}	Minimum Frequency of Analysis	Reporting Frequency
Arsenic	lbs/day	annual	annual
Cadmium	lbs/day	annual	annual
Chromium (VI)	lbs/day	annual	annual
Copper	lbs/day	annual	annual
Lead	lbs/day	annual	annual
Mercury	lbs/day	annual	annual
Nickel	lbs/day	annual	annual
Selenium	lbs/day	annual	annual
Silver	lbs/day	annual	annual
Zinc	lbs/day	annual	annual
Cyanide	lbs/day	annual	annual
Ammonia	lbs/day	annual	annual
Non-chlorinated phenolic compounds	lbs/day	annual	annual
Chlorinated phenolics	lbs/day	annual	annual
Endosulfan	lbs/day	annual	annual
Endrin	lbs/day	annual	annual
HCH	lbs/day	annual	annual
Acrolein	lbs/day	annual	annual

Monitoring Parameters and Reporting Frequency for *Combined Low-Volume*, In-Plant Wastewaters from Units 3 and 1

Constituent	Units ^{11/}	Minimum Frequency of Analysis	Reporting Frequency
Antimony	lbs/day	annual	annual
Bis (2-chloroethoxy) methane	lbs/day	annual	annual
Bis (2-chloroisopropyl) ether	lbs/day	annual	annual
Chlorobenzene	lbs/day	annual	annual
Chromium (trivalent)	lbs/day	annual	annual
Di-n-butyl phthalate	lbs/day	annual	annual
Dichlorobenzenes	lbs/day	annual	annual
Diethyl phthalate	lbs/day	annual	annual
Dimethyl phthalate	lbs/day	annual	annual
4,6-dinitro-2-methylphenol	lbs/day	annual	annual
2,4-dinitrophenol	lbs/day	annual	annual
Ethylbenzene	lbs/day	annual	annual
Fluoranthene	lbs/day	annual	annual
Hexachlorocyclopentadiene	lbs/day	annual	annual
Nitrobenzene	lbs/day	annual	annual
Thallium	lbs/day	annual	annual
Toluene	lbs/day	annual	annual
1,1,1-trichloroethane	lbs/day	annual	annual
Tributyltin	lbs/day	annual	annual
Acrylonitrile	lbs/day	annual	annual
Aldrin	lbs/day	annual	annual
Benzene	lbs/day	annual	annual
Benzidine	lbs/day	annual	annual
Beryllium	lbs/day	annual	annual
Bis (2-chloroethyl) ether	lbs/day	annual	annual
Bis (2-ethylhexyl) phthalate	lbs/day	annual	annual
Carbon tetrachloride	lbs/day	annual	annual
Chlordane	lbs/day	annual	annual
Chlorodibromomethane	lbs/day	annual	annual
Chloroform	lbs/day	annual	annual
DDT	lbs/day	annual	annual
1,4-dichlorobenzene	lbs/day	annual	annual
3,3'-dichlorobenzidine	lbs/day	annual	annual
1,2-dichloroethane	lbs/day	annual	annual
1,1-dichloroethylene	lbs/day	annual	annual
Dichlorobromomethane	lbs/day	annual	annual
Dichloromethane	lbs/day	annual	annual
1,3-dichloropropene	lbs/day	annual	annual

Monitoring Parameters and Reporting Frequency for *Combined Low-Volume*, In-Plant Wastewaters from Units 3 and 1

Constituent	Units ^{11/}	Minimum Frequency of Analysis	Reporting Frequency
Dieldrin	lbs/day	annual	annual
2,4-dinitrotoluene	lbs/day	annual	annual
1,2-diphenylhydrazine	lbs/day	annual	annual
Halomethanes	lbs/day	annual	annual
Heptachlor	lbs/day	annual	annual
Heptachlor epoxide	lbs/day	annual	annual
Hexachlorobenzene	lbs/day	annual	annual
Hexachlorobutadiene	lbs/day	annual	annual
Hexachloroethane	lbs/day	annual	annual
Isophorone	lbs/day	annual	annual
N-nitrosodimethylamine	lbs/day	annual	annual
N-nitrosodi-N-propylamine	lbs/day	annual	annual
N-nitrosodiphenylamine	lbs/day	annual	annual
PAHs	lbs/day	annual	annual
PCBs	lbs/day	annual	annual
TCDD equivalents	lbs/day	annual	annual
1,1,2,2-tetrachloroethane	lbs/day	annual	annual
Tetrachloroethylene	lbs/day	annual	annual
Toxaphene	lbs/day	annual	annual
Trichloroethylene	lbs/day	annual	annual
1,1,2-trichloroethane	lbs/day	annual	annual
2,4,6-trichlorophenol	lbs/day	annual	annual
Vinyl chloride	lbs/day	annual	annual

VI. INDIVIDUAL LOW VOLUME, IN-PLANT WASTEWATERS FROM UNIT 3^{9/} (INTERNAL OUTFALLS 003-C THROUGH 003-K) AND UNIT 1^{9/} (INTERNAL OUTFALLS 001-D THROUGH 001-F)

Each individual, low-volume, in-plant wastestream from Unit 3 (Internal Outfalls 003-C through 003-K) shall be collected and analyzed separately in accordance with the following schedule (the following monitoring schedule shall also be applicable to discharges of individual, low-volume, in-plant wastewaters from Unit 1 (Internal Outfalls 001-D through 001-F) whenever these discharges are routed from Unit 1 to Outfall 003):

Monitoring Parameters and Reporting Frequency for *Individual Low-Volume, In-Plant Wastewaters* from Units 3 and 1

Constituent	Units	Sample ^{2/} Type	Frequency of Analysis	Reporting Frequency
Flow (Avg and Daily Max)	mgd	meter or estimate	continuous	monthly
Total Suspended Solids	mg/L lbs/day ¹¹	grab	monthly	monthly
Oil and Grease	mg/L lbs/day ¹¹	grab	monthly	monthly

VII. CHEMICAL AND NON-CHEMICAL METAL CLEANING WASTES FROM UNIT 3 (INTERNAL OUTFALLS 003-A, 003-B) AND UNIT 1 (INTERNAL OUTFALL 001-C)

Chemical and non-chemical, metal cleaning waste streams from Unit 3 (Internal Outfalls 003-A and 003-B) shall be sampled and analyzed in accordance with the following monitoring schedule (the following monitoring schedule shall also be applicable Unit 1 metal cleaning wastewaters (Internal Outfall 001-C) whenever the metal cleaning discharges from Unit 1 are routed to Outfall 003):

Monitoring Parameters and Reporting Frequency for Metal Cleaning Wastes from Units 3 and 1

Constituent	Units	Sample ^{2/, 8/} Type	Frequency of Analysis ^{12/}	Reporting Frequency
TSS	mg/L lbs/day ^{11/}	grab	prior to discharge	quarterly
O&G	mg/L lbs/day ^{11/}	grab	prior to discharge	quarterly
Total Iron	mg/L lbs/day ^{11/}	grab	prior to discharge	quarterly
Total Copper	mg/L lbs/day ^{11/}	grab	prior to discharge	quarterly

VIII. UNIT 1 AND MESA COMPLEX SEWAGE TREATMENT PLANTS (OUTFALLS 001-A AND 001-B)

The following monitoring shall be conducted whenever treated domestic wastewaters from the Unit 1 and Mesa Facility Complex sewage treatment plants (Internal Outfalls 001-A and 001-B) are routed to Outfall 003:

1. Influent Monitoring:

Wastewater influent at the Unit 1 and the Mesa Complex Sewage Treatment Plants shall be monitored in accordance with the following schedule:

Constituent	Units	Type of Sample ^{2/}	Minimum Frequency of Analysis	Reporting Frequency
TSS	mg/L	grab	monthly	monthly

2. Effluent Monitoring (Outfalls 001-A and 001-B):

Treated wastewater at the Unit 1 (001-A) and the Mesa Complex (001-B) Sewage Treatment Plants shall be monitored in accordance with the following schedule:

Monitoring Parameters and Reporting Frequency for Treated Wastewater from the Unit 1 and Mesa Complex Sewage Treatment Plants

Constituent	Units	Type of Sample ^{2/}	Minimum Frequency of Analysis	Reporting Frequency
Flow (Avg and Max Daily)	mgd	meter or estimate	daily	monthly
Oil & Grease	mg/L lbs/day ¹¹	grab	monthly	monthly
TSS	mg/L	grab	monthly	monthly
Settleable Solids	ml/L	grab	monthly	monthly
pH	pH units	grab	monthly	monthly

IX. ACROSS-THE-BEACH DISCHARGE MONITORING (OUTFALL 005)

All incidents of across-the-beach discharges from Unit 3 through Outfall 005 shall be recorded and reported for the month during which the discharge occurred. The discharger shall report the date, time, and duration of each discharge; the source (system) of the wastewater that is discharged; an estimate of the volume discharged; and any other monitoring data that is generated during the discharge.

X. RECEIVING WATER MONITORING^{13/}

Receiving water monitoring shall be conducted as specified below. Station location, sampling, sample preservation, and analysis, when not specified by this MRP, shall be by methods described in the discharger's previous annual reports (Marine Environmental Analysis and

Interpretation, San Onofre Nuclear Generating Station, 2001, 2002, and 2003 Annual Reports) submitted to the Regional Board. The receiving water monitoring requirements may be modified by the Regional Board at any time.

1. CONTINUOUS TEMPERATURE MONITORING

Continuously recording thermographs will be employed at Stations C2S, F2S, and C22S (see Attachment 1, Figure 1 of this MRP). Measurements will be obtained from the surface, 5 m, 10 m and near-bottom. Measurements will be reported as hourly data.

2. TURBIDITY

Quarterly aerial photographic surveys will be conducted in the area of the Units 2 and 3 diffuser systems.

3. FISH POPULATIONS

Quarterly trawling surveys will be conducted at three stations (Attachment 1, Figure 2 of this MRP) located offshore of San Mateo Point, SONGS and Don Light. Daylight sampling by otter trawl will be conducted at the 20, 40 and 60 ft. isobaths at each station. Each trawl will be of five-minute duration. Collected fishes will be identified and enumerated, and sex determined for selected species.

4. KELP DENSITIES

Fixed Quadrant Sampling

Individual giant kelp plants and the number of associated stipes greater than 2 m will be counted tri-annually at fixed quadrants associated with six station (Stations 10, 14-15, 16-17, 18-19, 22, and 23) located in the San Onofre Kelp (see Attachment 1, Figure 3 of this MRP). The composition of the substrate will be qualitatively described and percent cover information will be collected at each of the fixed quadrant sites.

Random Quadrant Sampling

Semiannual sampling shall also be conducted at ten 10-m² circular quadrants randomly selected within 30-m radius of each of the six stations in the San Onofre Kelp. The random sampling shall include the enumeration of giant kelp, and an estimate of the substratum composition (i.e. percent of sand, cobble, and boulder) within each of the random quadrants.

5. KELP BED MONITORING

Kelp bed monitoring is conducted to assess the extent to which the discharge of wastes may affect the areal extent and health of coastal kelp beds. The discharger shall participate with other ocean dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum areal extent of the

region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area, which ordinarily occurs in August or September in the San Diego Region. The entire San Diego Region coastline, from the International Boundary to the San Diego Region/Santa Ana Region boundary, shall be photographed on the same day. The date of each annual survey shall be approved by a Regional Board. Verbal approval (with email confirmation) will be sufficient, so that the survey will not be delayed while written approval is prepared and distributed.

The images produced by the surveys shall be presented in the form of a 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot (MLLW) and 60-foot (MLLW) depth contours shall be shown.

The area/extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant losses which persist for more than one year shall be investigated by divers to determine the probable reason for the loss.

6. TEMPERATURE PROFILES

Temperature profiles from the surface to the bottom will be measured quarterly at the following designated Impact and Control Stations (see Attachment 1, Figure 4 of this MRP):

Impact Stations:

X0, C1N, C2N, C1S, C2S, F2N, F2S, H0, H2N, H2S, J0, J2N, J4N, J8N, J2S, J4S, J8S, M0, M2N, M4N, M8N, M2S, M4S, and M8S.

Control Stations:

C22S, F22S, H22S, J22S, and M22S.

7. WATER QUALITY MEASUREMENTS

Dissolved oxygen concentrations and pH will be measured quarterly at the surface of the following designated Impact and Control Stations (see Attachment 1, Figure 4 of this MRP):

Impact Stations:

X0, C1N, C2N, C1S, C2S, J2N, J2S, and J4S

Control Stations:

C22S and F22S

8. REPORTING

- a. A report containing detailed analyses of the previous year's receiving water monitoring data shall be submitted to the Regional Board by August 1 of each year. Each section of the report shall contain a graphical and written summary of historical data with the goal of displaying long term trends.
- b. The annual summary report requirement in Section XI of this MRP will not apply to receiving water monitoring.

XI. ANNUAL SUMMARY OF MONITORING DATA

By February 1 of each year, the Discharger shall submit an annual report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with the waste discharge requirements of this Order.

XII. OTHER MONITORING REQUIREMENTS

In addition to the Core (Intake, Effluent, and Receiving Water Monitoring) requirements (see Sections III through X) the Discharger shall comply with the following monitoring requirements:

- a. Regional Watershed/Ocean Monitoring

The Discharger shall participate and coordinate with state and local agencies and other dischargers in the San Diego Region in development and implementation of a regional watershed or ocean-monitoring program for the Pacific Ocean as directed by this Regional Board. The intent of a regional monitoring program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region. During the coordinated monitoring effort, the discharger's monitoring program may be expanded to provide a regional assessment of the impact of discharges to the watershed or Pacific Ocean.

- b. Special Studies

Special studies are intended to be short-term and designed to address specific research or management issues that are not addressed by the routine core-monitoring program. The Discharger shall implement special studies as directed by this Regional Board. This includes conducting and implementing a *Comprehensive Demonstration Study* as required by the CWA Section 316(b) Phase II Rule (40 CFR 125.91). The Study is due no later than January 9, 2008.

XIII. REPORTING REQUIREMENTS

1. The discharger shall comply with all *Federal Standard Provisions* (see Attachment C of Order No. R9-2005-0006) regarding monitoring, reporting, and recordkeeping.
2. The discharger shall present data in tabular form so that the required information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with waste discharge requirements.
3. The discharger shall report with each sample result the applicable Minimum Level (ML) and the laboratory current Method Detection Limit (MDL) as determined by the procedure in 40 CFR 136.
4. The discharger shall attach a cover letter to the Discharge Monitoring Report. The information contained in the cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned and the proposed time schedule of corrective actions. Identified violations should include a description of the requirement that was violated and a description of the violation.
5. Monitoring reports shall be submitted in accordance with the following schedule:

Monitoring Frequency	Report Due
Monthly	First day of second month after the month of sampling.
Quarterly	First day of the second month after the quarter ends – May 1, August 1, November 1, February 1.
Semiannually	First day of the second month after the 6 month period –August 1 and February 1.
Annually	February 1 (<u>Annual Discharge Monitoring Data Summary Report</u>)
	August 1 (<u>Annual Receiving Water Report</u>)

6. Copies of all reports submitted by the discharger to the Nuclear Regulatory Commission pertaining to monitoring of radioactive materials in wastewaters released from SONGS Unit 3 shall be transmitted to the Regional Board.
7. Other reports, as required by Order No. R9-2005-0006 shall be submitted to the Regional Board according to the following schedule:
 - a. Proposal for Information Collection Regarding Clean Water Act Section 316 (b) *Comprehensive Demonstration Study* will be due no later than 180 days after the effective date of Order No. R9-2005-0006.
 - b. Clean Water Act Section 316 (b) *Comprehensive Demonstration Study* will be due no later than January 9, 2008.

- c. Receiving Water Monitoring Report is due by August 1 of each year following the previous year's receiving water monitoring activity.
8. Monitoring results must be reported on forms approved by this Regional Board. Duplicate copies of the monitoring reports, signed and certified, as required by Attachment D of Order No. R9-2005-0006, must be submitted to the addresses listed below:

Submit monitoring reports to:	With a copy sent to:
Industrial Compliance Unit California Regional Water Quality Control Board San Diego Region 9174 Sky Park Court, Suite 100 San Diego, California 92123-4340	State Water Resources Control Board Discharge Monitoring Report Processing Center P.O. Box 671 Sacramento, California 95812

XIV. ENDNOTE REFERENCES

1. For fish length, where up to 125 individuals of a species are removed, the "representative sample" shall consist of all the individuals removed. Where more than 125 individuals of a species are removed, the "representative sample" shall consist of not less than 125 individuals. For determination of fish sex, the procedure shall be the same as for fish length, except the number of individuals shall be 50.
2. A grab sample is an individual sample of at least 100 mLs collected at a randomly selected time over a period not exceeding 15 minutes.
3. Temperature shall be recorded at a minimum frequency of once every two hours. The average and maximum temperature for each 24-hour period shall be reported. Insignificant figures shall be rounded to the nearest significant figures. The daily average difference (ΔT) and the maximum daily difference (ΔT_m) between the intake and discharge temperatures shall also be reported.
4. Combined discharge monitoring shall be conducted at a point in the circulating water system downstream of the condenser, downstream of the point(s) at which the component cooling and turbine plant cooling water streams reenter the circulating water stream, and downstream of the point(s) at which all in-plant and/or low volume waste streams enter the circulating water stream. Combined discharge samples shall be collected immediately following collection of cooling water intake samples.
5. Analyses for pollutants with effluent limitations based on water quality objectives from Table B of the California Ocean Plan (2001) shall conform to the requirements of Attachment 2 of this MRP.

6. Samples shall be collected and analyzed for total residual chlorine and free available chlorine at times when the concentration of total residual chlorine and free available chlorine in the combined discharge is greatest. The times of uninterrupted chlorine discharges on the days the samples are collected and the times at which samples are collected shall be reported.

7. Chronic Toxicity Units:

$$TU_c = 100/NOEC$$

Compliance with chronic toxicity will be expressed as TU_c , which equals $100/NOEC$. $NOEC$ (No Observed Effect Concentration) is the highest concentration of toxicant, in terms of percent effluent, to which the test organisms are exposed that causes no observable adverse effect.

8. A composite sample is defined as a combination of 24 aliquots of at least 100 mLs each, collected hourly over a 24-hour period. Each individual aliquot must consist of 4 samples taken at 15-minute intervals. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

9. For the purposes of monitoring, the following wastewaters are considered low volume wastewaters from Unit 3:

- | | |
|----------------------------------|--------------------------|
| • Blowdown Processing | • Hotwell Overboard |
| • Makeup Demineralizer | • Plant Drains |
| • Radwaste System | • Intake Structure Sump |
| • Polishing Demineralizer System | • Concrete Cutting Water |
| • Steam Generator Blowdown | |

For the purposes of monitoring, the following wastewaters are considered low volume wastewaters from Unit 1:

- Yard Drains
- Radwaste System
- Dewatering

10. A composite sample shall be created from as many individual low volume wastewaters as possible. Individual low volume wastewaters that account for no flow on the day of

sample collection would, however, not be included in a composite sample. The following example shows how to create a flow-weighted composite sample.

For example, say that the following individual low volume wastewaters are sampled. The flow rate for each individual wastewater is determined for that day, and the relative amount/volume, in percent, of each individual waste stream in the total flow for that day is determined. Using the percentages of each individual waste stream in the total, the amount of each individual waste stream to be composited in a five-gallon (18,927 mls) sample is calculated. In the example, below, on the day of sample collection, condenser overboard flow accounts for 69 percent of the total flow of the low volume wastewaters that are sampled. 69 percent of five gallons equals $0.69 \times 18,927$ milliliters, which equals 13,060 milliliters. (There are 3,785 mLs per gallon and 18,927 mLs per five gallons.)

Low Volume Wastewater	Flow	Percent of Total Flow	mLs to be Composited in a 5 Gal Sample
Condenser Overboard	6.5 mgd	69	13,060
Makeup Demineralizer System	0.58 mgd	6	1,136
Radwaste System	0.25 mgd	3	568
Steam Generator Blowdown	0.43 mgd	5	946
Polishing Demineralizer System	1.5 mgd	16	3,028
Concrete Cutting Cooling Water	0.10 mgd	1	189
Total	9.45 mgd	100 percent	18,927 mls

11. Mass emissions (lbs/day) are calculated by the following equation. The flow rate used for calculation shall be the flow rate of the individual waste stream at the time of sampling.

$$\text{lbs/day} = 8.34 \times C_e \times Q \text{ where:}$$

C_e = the effluent concentration limit, mg/l

Q = flow rate, million gallons per day (MGD)

12. After the initial discharge of metal cleaning wastes, monitoring shall be weekly, if the discharge continues. Monitoring results shall be summarized and included in the next quarterly monitoring report, which covers the 3-month period in which the discharge occurred.
13. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of the MRP shall include, as a minimum, the following information.
 - a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction swell

- or wave action, time of sampling, tide height, etc.).
- b. A description of sampling stations, including difference unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.).
 - c. A description of the sample collection and preservation procedures used in the survey.
 - d. A description of the specific method used for laboratory analysis.
 - e. An in-depth discussion of the results of the survey. The discussion shall compare data from the reference station(s) with data from the stations located in the area of the discharge. All tabulations and computations shall be explained.

ATTACHMENT 1 TO MONITORING AND REPORTING PROGRAM

**NPDES NO. CA0108181
ORDER NO. R9-2005-0006**

SONGS RECEIVING WATER MONITORING STATIONS

- Figure 1: Continuous Temperature Monitoring Stations
- Figure 2: Otter Trawl Stations for Fish Population Surveys
- Figure 3: San Onofre Kelp Site Sampling Stations
- Figure 4: Temperature Profile and Water Quality Measurement Stations

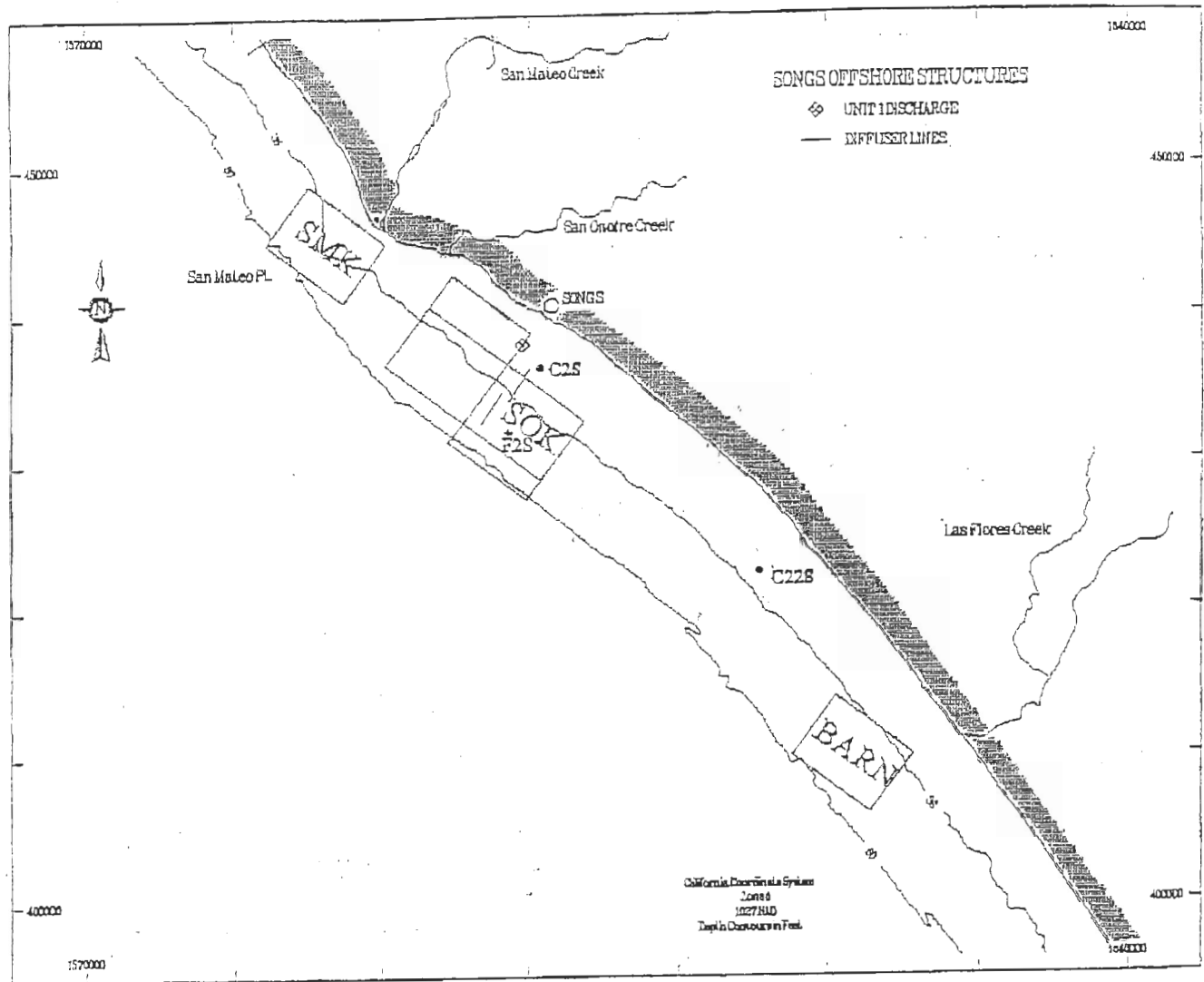


Figure 1. Locations of continuous temperature monitoring stations C2S, F2S, and C22S offshore San Onofre.

SONGS CONTINUOUS TEMPERATURE RECEIVING WATER MONITORING STATION COORDINATES (Coordinates are in NAD 83 Data)		
Station ID	Latitude	Longitude
C2S	33° 21.556'	117° 33.491'
C22S	33° 19.408'	117° 30.522'
F2S	33° 21.134'	117° 33.809'

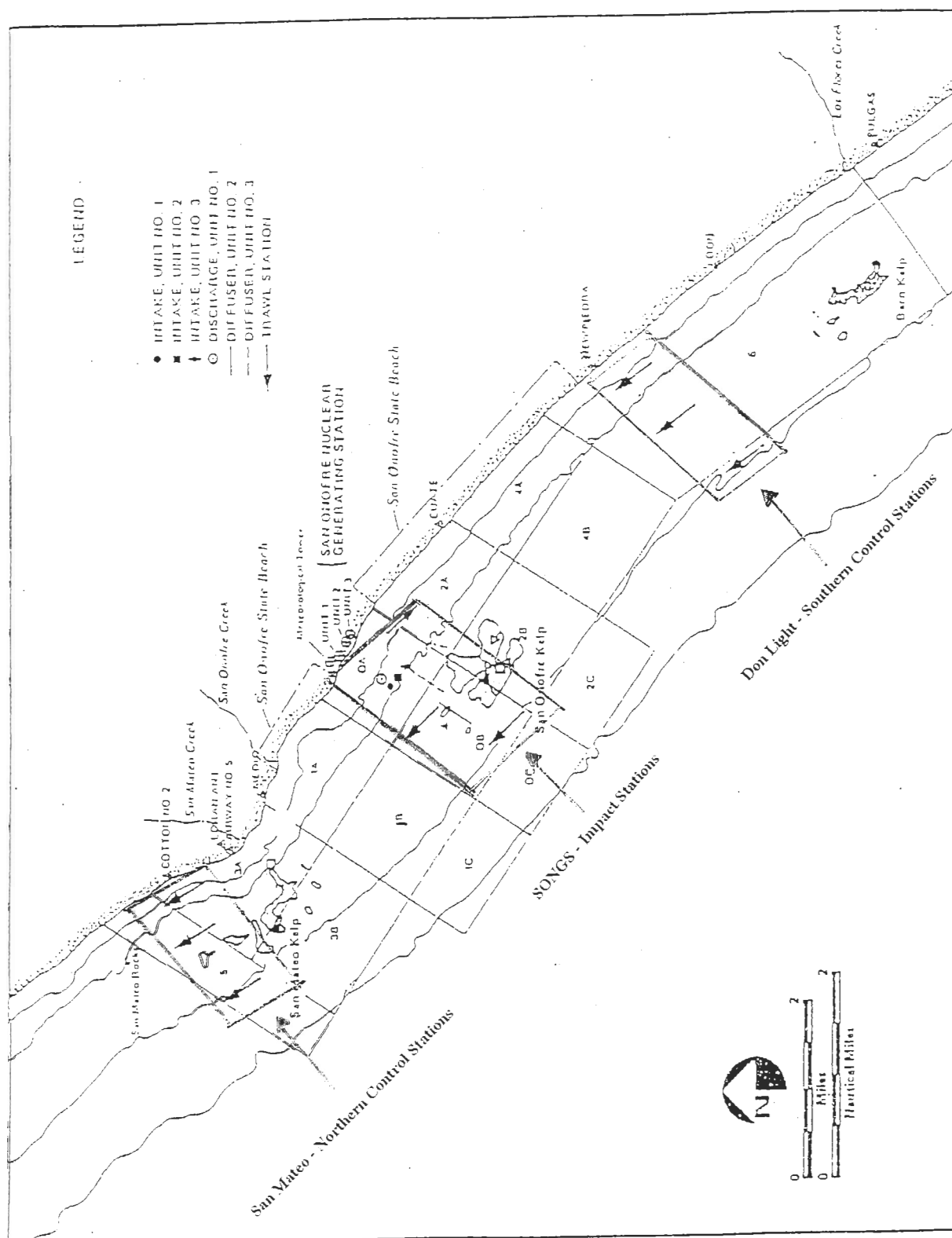


Figure 2: Otter Trawl Stations for Fish, Population Study

Figure 3: San Onofre Kelp Site Sampling Stations

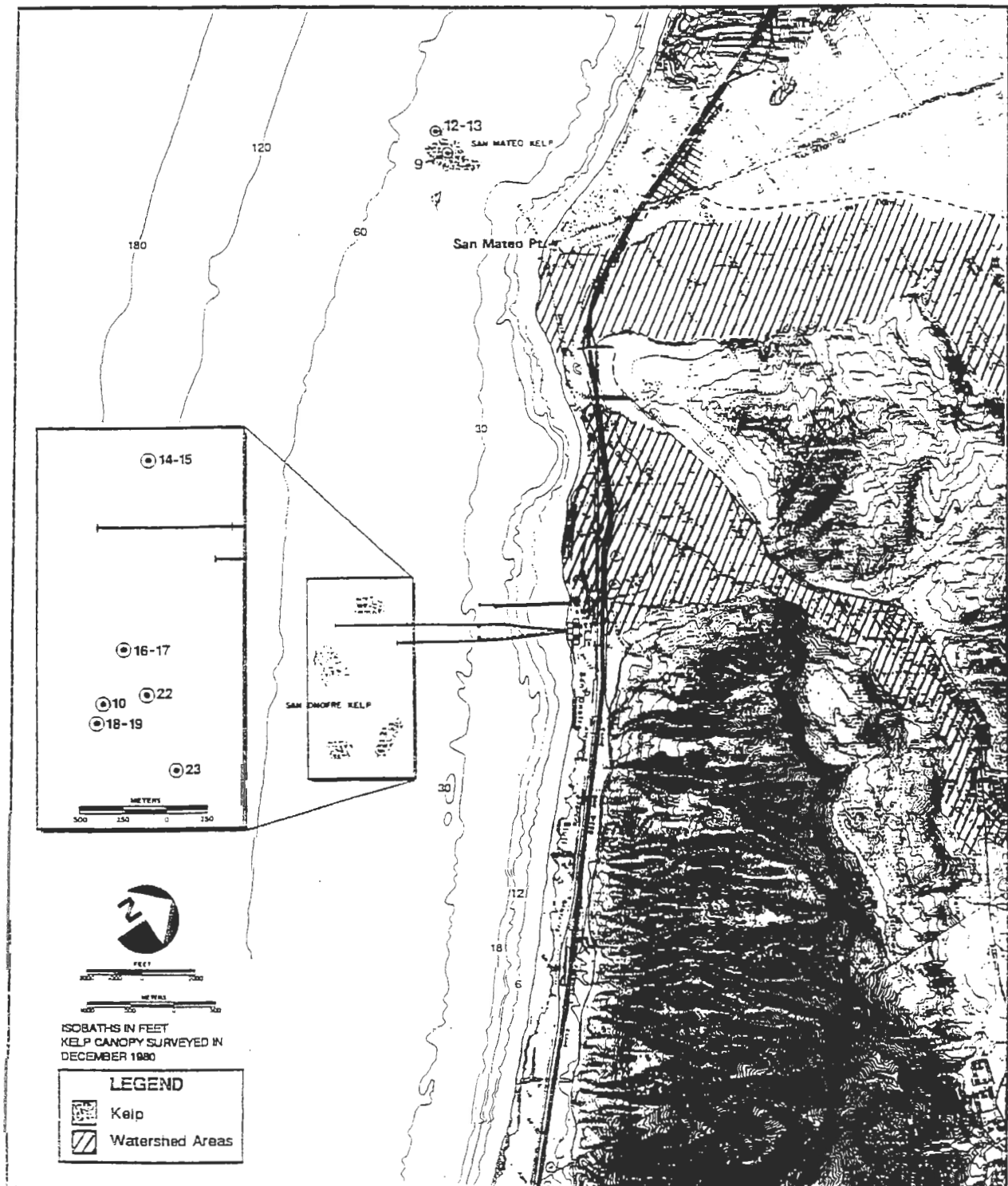
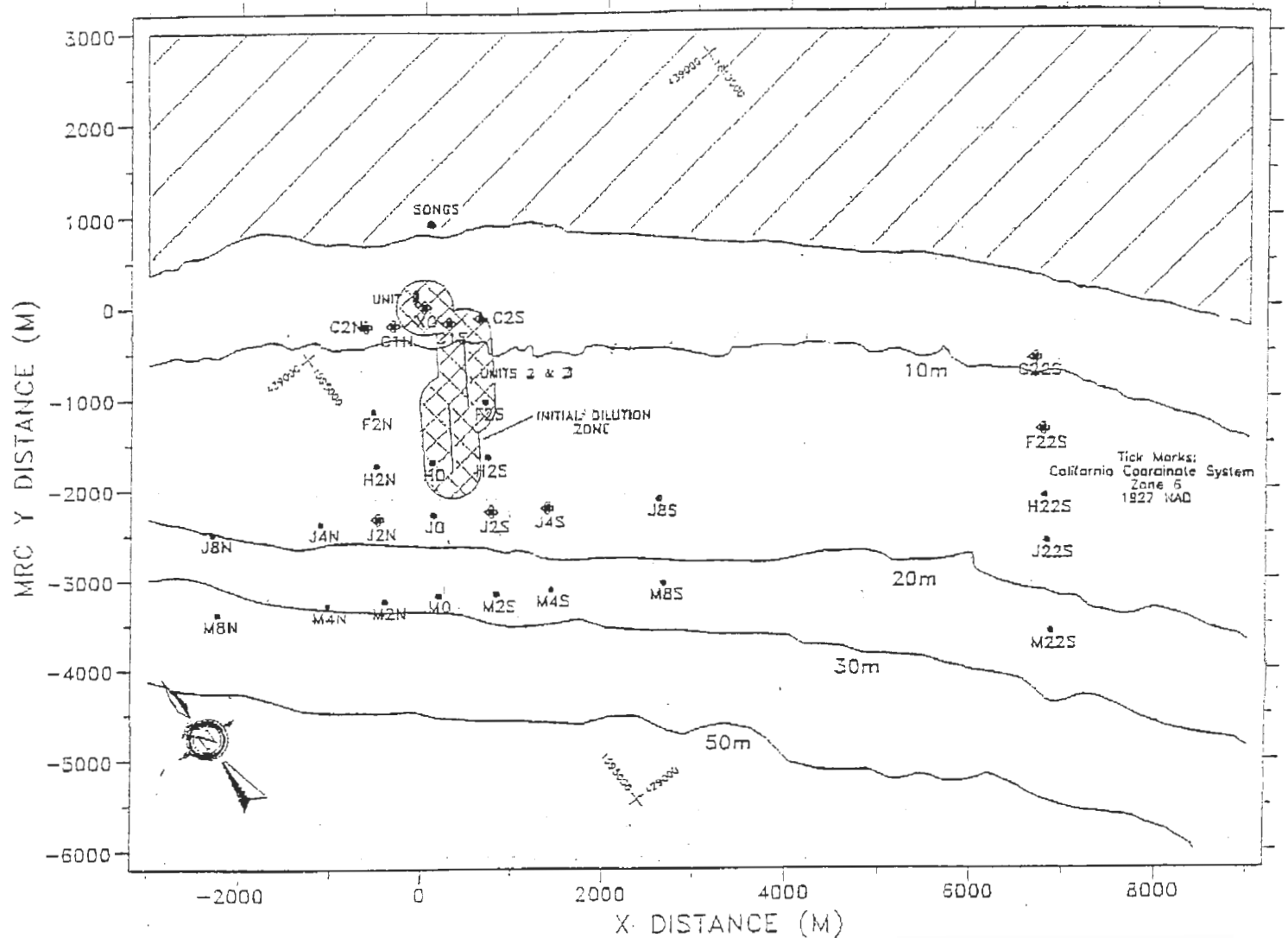


Figure 4: Temperature Profile and Water Quality Measurement Stations

Water Quality Station Locations



STATION COORDINATES
(Coordinates are in NAD 83 Data)

Station ID	Latitude	Longitude	Parameters Measured	Station Type
M22S	33° 18.038'	117° 31.566'	Temp	Control
J22S	33° 18.490'	117° 31.212'	Temp	Control
H22S	33° 18.716'	117° 31.034'	Temp	Control
F22S	33° 19.042'	117° 30.773'	Temp, DO, pH	Control
C22S	33° 19.408'	117° 30.522'	Temp, DO, pH	Control
C1S	33° 21.643'	117° 33.694'	Temp, DO, pH	Impact
C2S	33° 21.556'	117° 33.491'	Temp, DO, pH	Impact
X0	33° 21.807'	117° 33.761'	Temp, DO, pH	Impact
C1N	33° 21.826'	117° 34.016'	Temp, DO, pH	Impact
C2N	33° 21.918'	117° 34.180'	Temp, DO, pH	Impact
F2S	33° 21.134'	117° 33.809'	Temp	Impact
F2N	33° 21.484'	117° 34.482'	Temp	Impact
H2N	33° 21.211'	117° 34.690'	Temp	Impact
H0	33° 21.033'	117° 34.358'	Temp	Impact
H2S	33° 20.859'	117° 34.019'	Temp	Impact

STATION COORDINATES
(Coordinates are in NAD 83 Data)

Station ID	Latitude	Longitude	Parameters Measured	Station Type
J8S	33° 20.051'	117° 33.220'	Temp	Impact
J4S	33° 20.400'	117° 33.889'	Temp, DO, pH	Impact
J2S	33° 20.586'	117° 34.230'	Temp, DO, pH	Impact
J0	33° 20.772'	117° 34.570'	Temp	Impact
J2N	33° 20.948'	117° 34.904'	Temp, DO, pH	Impact
J4N	33° 21.128'	117° 35.251'	Temp	Impact
J8N	33° 21.460'	117° 35.911'	Temp	Impact
M8N	33° 21.053'	117° 36.219'	Temp	Impact
M4N	33° 20.707'	117° 35.555'	Temp	Impact
M2N	33° 20.524'	117° 35.206'	Temp	Impact
M0	33° 20.363'	117° 34.881'	Temp	Impact
M2S	33° 20.165'	117° 34.543'	Temp	Impact
M4S	33° 19.989'	117° 34.208'	Temp	Impact
M8S	33° 19.627'	117° 33.545'	Temp	Impact

ATTACHMENT 2 TO MONITORING AND REPORTING PROGRAM

NPDES NO. CA0108181
ORDER NO. R9-2005-0006

ANALYSIS OF POLLUTANTS WITH EFFLUENT LIMITATIONS BASED ON WATER QUALITY OBJECTIVES FROM TABLE B OF THE 2001 OCEAN PLAN MINIMUM LEVELS

1. Pollutants with effluent limitations, based on water quality objectives of Table B of the 2001 Ocean Plan, shall be analyzed by one of the analytical methods identified below. The Discharger shall use the Minimum Level, corresponding to the method used for analysis, for reporting and compliance determination.

Minimum Levels represent the lowest quantifiable concentration in a sample based on the proper application of method specific analytical procedures and the absence of matrix interferences. Minimum Levels also represent the lowest standard concentration in the calibration curve for a specific analytical technique after the application of appropriate method specific factors.

Common analytical practices may require different treatment of the sample relative to the calibration standard. Some examples are given below:

Substance or Grouping	Method-Specific Treatment	Most Common Factor
Volatile Organics	No differential treatment	1
Semi-Volatile Organics	Samples concentrated by extraction	1000
Metals	Samples diluted or concentrated	½, 2, and 4
Pesticides	Samples concentrated by extraction	100

Other factors may be applied to the Minimum Level depending on the specific sample preparation steps used. For example, the treatment typically applied when there are matrix effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, the additional factor must be applied during the computation of the reporting limit. Application of such factors will alter the reported Minimum Level.

The Discharger shall instruct its laboratory to establish calibration standards so that the Minimum Level (or its equivalent, if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. The Discharger shall not use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

Minimum Levels and Analytical Methods - Volatile Chemicals

Constituent	CAS Number	Minimum Level (µg/l)	
		GC Method	GCMS Method
Acrolein	107028	2	5
Acrylonitrile	107131	2	2
Benzene	71432	0.5	2
Bromoform	75252	0.5	2
Carbon tetrachloride	56235	0.5	2
Chlorobenzene	108907	0.5	2
Chlorodibromomethane	124481	0.5	2
Chloroform	67663	0.5	2
1,2-dichlorobenzene (volatile)	95501	0.5	2
1,3-dichlorobenzene (volatile)	541731	0.5	2
1,4-dichlorobenzene (volatile)	106467	0.5	2
Dichlorobromomethane	75274	0.5	2
1,1-dichloroethane	75343	0.5	1
1,2-dichloroethane	107062	0.5	2
1,1-dichloroethylene	75354	0.5	2
Dichloromethane	75092	0.5	2
1,3-dichloropropene	542756	0.5	2
Ethyl benzene	100414	0.5	2
Methyl bromide	74839	1	2
Methyl chloride	74873	0.5	2
1,1,2,2-tetrachloroethane	79345	0.5	2
Tetrachloroethylene	127184	0.5	2
Toluene	108883	0.5	2
1,1,1-trichloroethane	71556	0.5	2
1,1,2-trichloroethane	79005	0.5	2
Trichloroethylene	79016	0.5	2
Vinyl chloride	75014	0.5	2

Minimum Levels and Analytical Methods - Semi Volatile Chemicals

Constituent	CAS Number	Minimum Level (µg/l)			
		GC Method	GCMS Method	HPLC Method	Color Method
Acenaphthylene	208968		10	0.2	
Anthracene	120127		10	2	
Benzidine	92875		5		
Benzo(a)anthracene	56553		10	2	
Benzo(a)pyrene	50328		10	2	
Benzo(b)fluoranthene	205992		10	10	
Benzo(g,h,i)perylene	191242		5	.1	

Minimum Levels and Analytical Methods - Semi Volatile Chemicals

Constituent	CAS Number	Minimum Level (µg/l)			
		GC Method	GCMS Method	HPLC Method	Color Method
Benzo(k)fluoranthene	207089		10	2	
Bis 2-(1-chloroethoxy) methane	111911		5		
Bis (2-chloroethyl) ether	111444	10	1		
Bis (2-chloroisopropyl) ether	39638329	10	2		
Bis(2-ethylhexyl) phthalate	117817	10	5		
2-chlorophenol	95578	2	5		
Chrysene	218019		10	5	
Di-n-butyl phthalate	84742		10		
Dibenzo(a,h)anthracene	53703		10	.1	
1,2-dichlorobenzene (semivolatile)	95504	2	2		
1,3-dichlorobenzene (semivolatile)	541731	2	1		
1,4-dichlorobenzene (semivolatile)	106467	2	1		
3,3-dichlorobenzidine	91941		5		
2,4-dichlorophenol	120832	1	5		
1,3-dichloropropene	542756		5		
Diethyl phthalate	84662	10	2		
Dimethyl phthalate	131113	10	2		
2,4-dimethylphenol	105679	1	2		
2,4-dinitrophenol	51285	5	5		
2,4-dinitrotoluene	121142	10	5		
1,2-diphenylhydrazine	122667		1		
Fluoranthene	206440	10	1	.05	
Fluorene	86737		10	.1	
Hexachlorobenzene	118741	5	1		
Hexachlorobutadiene	87683	5	1		
Hexachlorocyclopentadiene	77474	5	5		
Hexachloroethane	67721	5	1		
Indeno(1,2,3-cd)pyrene	193395		10	.05	
Isophorone	78591	10	1		
2-methyl-4,6-dinitrophenol	534521	10	5		
3-methyl-4-chlorophenol	59507	5	1		
N-nitrosodi-n-propylamine	621647	10	5		
N-nitrosodimethylamine	62759	10	5		
N-nitrosodiphenylamine	86306	10	1		
Nitrobenzene	98953	10	1		
2-nitrophenol	88755		10		
4-nitrophenol	100027	5	10		

Minimum Levels and Analytical Methods - Semi Volatile Chemicals

Constituent	CAS Number	Minimum Level (µg/l)			
		GC Method	GCMS Method	HPLC Method	Color Method
Pentachlorophenol	87865	1	5		
Phenanthrene	85018		5	.05	
Phenol	108952	1	1		50
Pyrene	129000		10	.05	
2,4,6-trichlorophenol	88062	10	10		

Minimum Levels and Analytical Methods - Inorganics

Constituent	CAS Number	Minimum Level (µg/l)								
		Color Method	DCP Method	FAA Method	GFAA Method	HYDRI DE Method	ICP Method	ICPMS Method	SPGFA A Method	CVAA Method
Antimony	7440360		1000	10	5	.5	50	.5	5	
Arsenic	7440382	20	1000		2	1	10	2	2	
Beryllium	7440417		1000	20	.5		2	.5	1	
Cadmium	7440439		1000	10	.5		10	.2	.5	
Chromium (total)			1000	50	2		10	.5	1	
Chromium (VI)	18540299	10		5						
Copper	7440508		1000	20	5		10	.5	2	
Cyanide	57125	5								
Lead	7439921		10000	20	5		5	.5	2	
Mercury	7439976							.5		.2
Nickel	7440020		1000	50	5		20	1	5	
Selenium	7782492		1000		5	1	10	2	5	
Silver	7440224		1000	10	1		10	.2	2	
Thallium	7440280		1000	10	2		10	1	5	
Zinc	7440666		1000	20			20	1	10	

Minimum Levels and Analytical Methods - Pesticides and PCBs

Constituent	Minimum Level (µg/l)	
	CAS Number	GC Method
Aldrin	309002	.005
Chlordane	57749	.1
4,4'-DDD	72548	.05
4,4'-DDE	72559	.05
4,4'-DDT	50293	.01
Dieldrin	60571	.01
a-Endosulfan	959988	.02
b-Endosulfan	33213659	.01
Endosulfan Sulfate	1031078	.05
Endrin	72208	.01
Heptachlor	76448	.01
Heptachlor Epoxide	1024573	.01
a-Hexachlorocyclohexane	319846	.01
b-Hexachlorocyclohexane	319857	.005
d-Hexachlorocyclohexane	319868	.005
g-Hexachlorocyclohexane (Lindane)	58899	.02
PCB 1016		.05
PCB 1221		.05
PCB 1232		.05
PCB 1242		.05
PCB 1248		.05
PCB 1254		.05
PCB 1260		.05
Toxaphene	8001352	.05

2. Reporting Protocols

The Discharger shall adhere to the following reporting protocols, for pollutants with effluent limitations based on water quality objectives from Table B of the Ocean Plan (2001), unless stated otherwise in the Order No. R9-2005-0006 or this MRP.

- a. The Discharger must report with each sample result the Minimum Level, which corresponds to the analytical method employed, and the laboratory's current method detection limit (MDL).
- b. The Discharger must also report the results of analytical determinations for the presence of chemical constituents in a sample using the following protocols:

- i. Sample results greater than or equal to the reported Minimum Level must be reported “as measured” by the laboratory (i.e., the measured chemical concentration in the sample).
- ii. Sample results less than the reported Minimum Level, but greater than or equal to the laboratory’s MDL, must be reported as “detected, but not quantified” or DNQ. The laboratory must write the estimated concentration next to DNQ, as well as the words “estimated concentration,” which may be shortened to “est. conc.”
- iii. Sample results less than the laboratory’s MDL must be reported as “not detected” or ND.

3. Compliance Determination

a. Compliance with single constituent effluent limitations:

Discharges are out of compliance with the effluent limitation, if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.

b. Compliance with effluent limitations expressed as a sum of several constituents:

Discharges are out of compliance with an effluent limitation, which applies to the sum of a group of chemicals (e.g., PCBs), if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero, if the constituent is reported as ND or DNQ.

c. Multiple sample data reduction:

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses, when all sample results are quantifiable. (i.e., greater than or equal to the reported Minimum Level). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

ATTACHMENT 3 TO MONITORING AND REPORTING PROGRAM

NPDES NO. CA0108181
ORDER NO. R9-2005-0006

MONITORING OF CHRONIC TOXICITY AND IMPLEMENTATION OF LIMITATIONS

1. Chronic Toxicity Monitoring

The permittee shall conduct semiannual toxicity tests on 24-hour composite effluent samples. Testing shall be performed using methods outlined in "Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms." or "SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ."

Combined discharge samples shall be taken during a period when low volume wastes are being discharged. Samples shall be taken at the NPDES sampling location of the combined discharge. During the 4th quarter of 2006, the permittee shall perform a chronic toxicity screening test with an invertebrate, Haliotis rufescens, a plant Macrocystis pyrifera, and a vertebrate Atherinops Affinis. After this screening period, monitoring will be conducted on the most sensitive species. Every two years the permittee shall re-screen to determine the most sensitive species. This screening shall be performed on a different month than previous species screenings. The most sensitive species shall then be used.

At least five concentrations of effluent (one concentration must bracket the initial dilution of 10% effluent) plus a control, shall be tested. A minimum of four replicates is required per concentration. The effluent tests must be conducted with concurrent reference toxicant tests. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manuals. If the test acceptability criteria is not achieved, then the permittee must re-sample and re-test within 14 days.

The summary report submitted to the Regional Board must follow the guidelines specified in Chapter 10 of Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. Section 10.2 and section 10.3.2 of that chapter is not required.

Compliance shall be determined from TUC, which equals 100/NOEC. NOEC (No Observed Effect Concentration) is the highest concentration of toxicant, in terms of percent effluent, to which the test organisms are exposed that causes no observable adverse effect. The chronic toxicity limitation is: 1) a monthly median expressed as 10 TUC or 2) any one test that demonstrates a 50% toxic effect.

2. Implementation of Chronic Toxicity Limitations

If the results of an acute or chronic toxicity test exceeds the limits specified in this Order, the discharger shall:

- a. Take all reasonable measures necessary to immediately minimize toxicity; and
- b. Increase the frequency of the toxicity test(s) that violated the effluent limitation to at least two times per month until the results of at least three consecutive toxicity tests meet the required standard. Resampling should occur under conditions that mimic the conditions of the initial non-compliant toxicity test.

If the Regional Board determines that toxicity testing shows a consistent violation of the limits specified in this Order, the discharger shall conduct a Toxicity Reduction Evaluation (TRE), which includes all reasonable steps to identify the source of the toxicity. Once the source of toxicity is identified, upon the Regional Board's request, the discharger shall take all reasonable steps to reduce the toxicity to meet the toxicity limitations contained in this Order. The TRE shall be conducted based on the procedures established by the U.S. EPA in guidance manuals EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA/600/R-92/081 (Phase III), and EPA/600/2-88/070 (TRE protocols for industrial discharges).

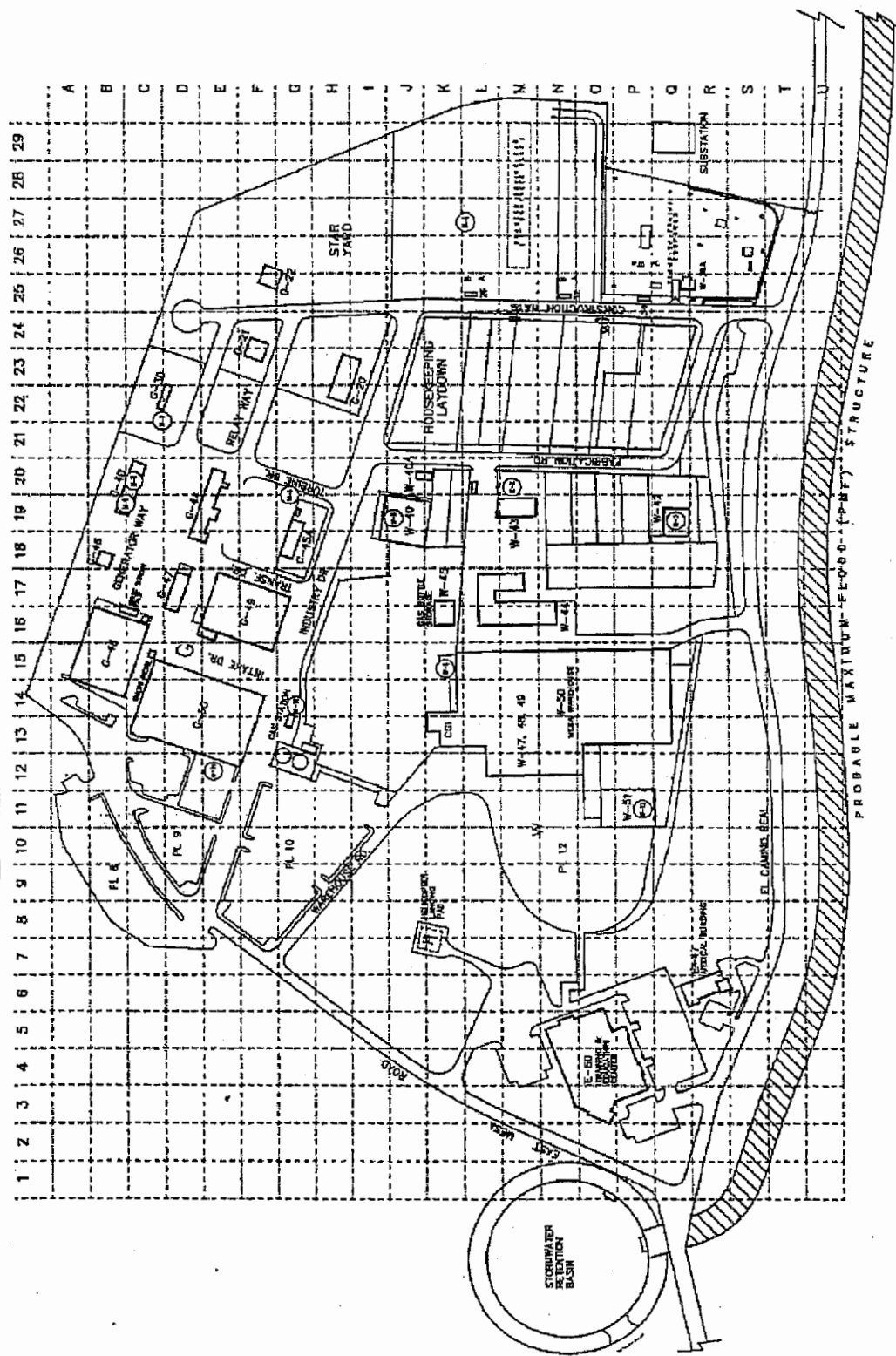
Within 14 days of completion of the TRE, the discharger shall submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with this Order and prevent future violations, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the discretion of the Regional Board.

ATTACHMENT 4 TO MONITORING AND REPORTING PROGRAM

**NPDES NO. CA0108181
ORDER NO. R9-2005-0006**

SONGS FACILITY GRIDMAPS

NPDES SITE PLAN (Continued)



NPDES SITE PLAN (Continued)

